

4.12 TRANSPORTATION AND TRAFFIC

4.12.1 SETTING

This section describes the existing major transportation networks, and responsible transportation authorities and/or congestion management agencies (CMAs) by county throughout the project area. For all state and federal highways in the state of California, the California Department of Transportation (Caltrans) would be the agency responsible for granting access to facilities' rights-of-way (ROW), as well as approving construction traffic plans that would affect the operations of state and federal facilities. Access to, and/or the approval of construction traffic operations on local and regional routes of significance would be granted and approved by either the affected county's engineering department, or the local city's engineering department. Sempra Communications would be required to cooperate with Caltrans, county agencies and local incorporated cities before construction begins.

ROADWAY OPERATIONS

The operation of a local roadway network is commonly measured and described using a grading system called Level of Service (LOS). The LOS grading system qualitatively characterizes traffic conditions associated with varying levels of vehicle traffic, ranging from LOS A (indicating free-flow traffic conditions with little or no delay experienced by motorists) to LOS F (indicating congested conditions where traffic flows exceed design capacity and result in long queues and delays). This LOS grading system applies to roadway/freeway segments and intersections. For most local jurisdictions (local City and County roadways and intersections) LOS A, B, and C are generally considered satisfactory service levels, while the influence of congestion becomes more noticeable (though still considered acceptable) at LOS D. LOS E and F are generally considered to be unacceptable. For roadways and intersections with regional significance, or those facilities that fall within the jurisdictions of regional CMAs, LOS A through E are generally considered satisfactory service levels. LOS F is generally considered to be unacceptable for regional facilities (unless they are currently operating at that level). **Table 4.12-1** provides descriptions of each service level.

PROJECT AREA TRANSPORTATION NETWORKS

The following describes the transportation networks and responsible agencies by county, starting in the northern California metropolitan areas, to the metropolitan areas of southern California.

Marin County

The County of Marin Public Works Department is responsible for the planning and development of the majority of the regional transportation facilities in Marin County. Caltrans is responsible for the maintenance of state highway facilities in the County such as U.S. Highway 101 (US 101) and State Route 1 (Highway 1). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintains roadway segments of the local transportation facilities.

**TABLE 4.12-1
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Description
A	Describes completely free-flow conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. Maneuverability within the traffic stream is good. Minor disruptions to flow are easily absorbed without a change in travel speed.
B	Also indicates free-flow, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver. Minor disruptions are still easily absorbed, although local deterioration in LOS will be more obvious.
C	The influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. On multilane highways with a free-flow speed above 50 miles per hour (mph), the travel speeds reduce somewhat. Minor disruptions can cause serious local deterioration in service, and queues will form behind any significant disruption.
D	The ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing volume. Only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	Represents operations at or near capacity, an unstable level. The densities vary, depending on the free-flow speed. Vehicles are operating with the minimum spacing for maintaining uniform flow. Disruptions cannot be dissipated readily, often causing queues to form and service to deteriorate to LOS F.
F	Represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. Although operations at these points – and on sections immediately downstream – appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages. Note that the term LOS F may be used to characterize both the point of the breakdown and the operating condition within the queue.

SOURCE: Transportation Research Board, *Highway Capacity Manual (HCM2000)*, 2000.

US 101 is the primary freeway facility in Marin County that provides regional access to Sonoma County to the north; San Francisco and the Peninsula to the south, the East Bay to the east, via Interstate 580 (I-580); and the coastal areas, via Highway 1. Other major regional routes and their respective jurisdictions are:

- Interstate 580 (I-580) – Caltrans
- State Route 1 (Highway 1) – Caltrans and County of Marin
- State Route 37 (SR 37) – Caltrans and City of Novato
- State Route 131 (SR 131) – Caltrans, County of Marin, and City of Tiburon

- Sir Francis Drake Boulevard – Cities of San Anselmo, Ross, and Larkspur; County of Marin

Major regional transit providers that operate facilities within Marin County include: Golden Gate Transit (regional bus service) and the Blue and Gold Fleet Ferry Service (water transportation).

San Francisco County

The County and City of San Francisco contain the same jurisdictional boundaries in terms of regional and local transportation facilities. The (County and City) Parking and Traffic Commission and the Metropolitan Transportation Commission (MTC) are responsible for the planning and development of the majority of transportation facilities in San Francisco. Caltrans is responsible for the maintenance of state highway facilities in San Francisco such as U.S. Highway 101 (US 101), State Route 1 (Highway 1 and 19th Avenue), Interstate 80 (I-80), and Interstate 280 (I-280). These state facilities are the primary north-south freeways and arterials that provide access to Marin County to the north (US 101 and Highway 1); the Peninsula and South Bay (US 101, I-280 and Highway 1), and the East Bay (I-80). Other major regional routes in San Francisco include:

- Van Ness Avenue (US 101)
- Lombard Street (US 101)
- 19th Avenue and Presidio Boulevard (Highway 1)
- Geary Boulevard
- Fell Street
- Oak Street
- Market Street
- Mission Street

Major regional transit providers that operate facilities in San Francisco include: San Francisco Municipal Railway (MUNI, intercity bus and light rail services); Bay Area Rapid Transit (BART) regional light rail service; Caltrain (regional commuter rail transit); Golden Gate Transit and San Mateo Transit (SamTrans), (inter-county bus transit service); and the Blue and Gold Fleet Ferry and the Oakland/Alameda Ferry Service (regional water transportation).

Alameda County

The Alameda County Congestion Management Agency (ACCMA) administers the Congestion Management Program (CMP) for the cities within the County. The ACCMA CMP network is comprised of all State Highways, principal arterials within the County, and transit corridors within the Metropolitan Transportation System (MTS). Alameda County's LOS standard for the CMP network is LOS E, except where existing facilities are currently operating at LOS F. Certain segments of the following CMP facilities (i.e., freeways and regional routes within Alameda County) have been identified in the 1999 CMP as operating at LOS F:

- Interstate 80 (I-80) through portions of Berkeley, Emeryville, and Oakland
- State Route 24 (SR 24) through Oakland

- Interstate 580 (I-580) through Oakland
- Interstate 980 (I-980) through Oakland
- State Route 238 (SR 238) through Hayward
- Interstate 880 (I-880) through San Leandro, Hayward, and Fremont
- State Route 92 (SR 92) through Hayward
- State Route 13 (SR 13, Ashby Avenue) through Berkeley
- State Route 260 (SR 260) through Oakland and Alameda
- Hesperian Boulevard through Hayward and San Leandro
- State Route 112 (SR 112, Davis Street) through San Leandro
- Decoto Road through Union City
- State Route 84 (SR 84, Fremont Boulevard) through Fremont
- Mowry Avenue through Fremont

The 1999 Alameda County CMP provides a detailed list of these segments indicating the specific segment lengths and direction of traffic, which is currently operating at LOS F.

Major regional transit providers that operate facilities within Alameda County include: AC Transit (regional bus service); BART (light rail); and the Oakland/Alameda Ferry Service (water transportation).

Contra Costa County

The Contra Costa Transportation Authority (CCTA) administers the CMP for the regional travel facilities in Contra Costa County. The CMP road network includes, at a minimum, all State highways and principal arterials. Because of its importance as part of the county's transportation system, BART is also included in the CMP network. The 2000 Update to the *Countywide Comprehensive Transportation Plan* and updates to the Action Plans for Routes of Regional Significance have recently been completed.

The Contra Costa CMP establishes two types of LOS standards: standards for freeway segments and standards for CMP Monitoring Intersections on surface roadways. Freeway segments were set at the LOS E standard unless any of the available data indicated LOS F. The standard for intersections operating at LOS F in 1991 was set at LOS F, while the standard at all remaining intersections was set at LOS E. Certain segments of the following CMP facilities (i.e., freeways and regional routes within Contra Costa County) have been identified in the 2001 CMP Update as operating at LOS F:

- Interstate 80 (I-80) including the Carquinez Bridge
- Interstate 680 (I-680) including the Benicia Bridge
- State Route 4 (SR 4) from I-80 to Cummings Skyway, and SR 242 to SR 160
- State Route 24 (SR 24) from Alameda County to I-680 and SR 4
- Rumrill Boulevard in San Pablo
- Barrett Avenue in Richmond
- Bear Creek Road in Orinda and Contra Costa County
- Taylor Boulevard in Pleasant Hill
- Monument Boulevard in Pleasant Hill

- Geary Road in Walnut Creek
- Alhambra Avenue in Pleasant Hill
- North Main Street in Walnut Creek
- Oak Grove Road in Concord
- Bancroft Road in Concord
- Alberta in Concord
- Cowell Road in Concord
- Walnut Boulevard in Walnut Creek

Major regional transit providers that operate facilities within Contra Costa County include: Central Contra Costa Transit Authority (CCCTA); WestCAT (bus service for west Contra Costa County); BART (light rail); and the Vallejo Transit Ferry Service (water transportation).

San Mateo County

The City/County Association of Governments of San Mateo County (C/CAG) administers the CMP for the regional travel facilities in San Mateo County. The CMP roadway network includes, at a minimum, all State highways and principal arterials. C/CAG has established different level of service criteria for each of its CMP facilities, ranging from LOS B to LOS F. By adopting LOS standards based on geographic differences, C/CAG utilizes the CMP process to prevent future congestion levels in San Mateo County from getting worse than currently anticipated. The CMP network's LOS criteria are listed in the CMP under Table 3-2, "Level of Service Standards for CMP Roadway Segments." Certain segments of the following CMP facilities (i.e., freeways and regional routes within San Mateo County) have been identified in the 1997 CMP as operating at LOS F:

- State Route 35 (SR 35), Sneath Lane to I-280
- State Route 84 (SR 84), University Avenue to Alameda County line
- U.S. Highway 101 (US 101), Peninsula Avenue to SR 92
- U.S. Highway 101 (US 101), Whipple Avenue to Santa Clara County line
- Interstate 380 (I-380), I-280 to US 101
- The intersections of Bayfront Expressway (SR 84) with University Avenue (SR 109), Willow Road (SR 114), and Marsh Road
- The intersection of SR 92 and Main Street

Major regional transit providers that operate facilities within San Mateo County include: SamTrans (local and regional bus service), and Caltrain (commuter train service).

Santa Clara County

The Santa Clara Valley Transportation Authority (VTA) administers the CMP for the cities within the County. The VTA's CMP network is comprised of all State Highways and principal arterials within the County. The CMP roadways are defined with the minimum characteristics: 1) State highway; 2) six-lane facility; or 3) non-residential arterial with average daily traffic of 30,000 vehicles per day. Santa Clara County's LOS standard for the CMP network is LOS E, except where existing facilities are currently operating at LOS F. Certain segments of the

following CMP facilities (i.e., freeways and regional routes within Santa Clara County) have been identified in the 1997 CMP as operating at LOS F:

- San Tomas Expressway/Campbell Avenue – Campbell
- Montague Expressway at Capitol Avenue, Milpitas Boulevard, Trade Zone Boulevard/McCandless, and McCarthy Boulevard/O’Toole Avenue – Milpitas and Santa Clara County
- Page Mill-Oregon Expressway/Foothill Expressway – Palo Alto
- Capitol Expressway/Story Road – San Jose
- Guadalupe Parkway/Taylor – San Jose
- Montague Expressway/First Street – San Jose
- Trimble Road/De la Cruz Boulevard – San Jose
- Central Expressway at De la Cruz Boulevard and Lafayette Street – Santa Clara.
- San Tomas Expressway at El Camino Real (SR 82), Saratoga Avenue, and Stevens Creek Boulevard – Santa Clara and San Jose

Major regional transit providers that operate facilities within Santa Clara County include: VTA Transit (regional bus service) and Caltrain (commuter rail).

Santa Cruz County

Santa Cruz County is the smallest county in the state and largely rural in nature. The maintenance of the County’s transportation network is done by the County of Santa Cruz Public Works Department, while the planning and development of the roadway network is done by the Santa Cruz County Regional Transportation Commission (SCCRTC). Three state highways under the jurisdiction of Caltrans traverse the County in a north-south direction. The major transportation network in Santa Cruz County consists of the following:

- State Route 1 (Highway 1), with access coastal San Mateo County and Monterey County
- State Route 9 (Highway 9), with access to the Santa Cruz mountains
- State Route 17 (Highway 17), with access to the Silicon Valley

According to information provided by the SCCRTC (based on 1998 LOS data), none of the primary roadway facilities in the County are operating at LOS F.

Major transit providers that operate facilities within Santa Cruz County include the Santa Cruz Metropolitan Transit District (Metro, regional bus service), and Amtrak (regional rail service).

Sacramento County

The Sacramento Transportation Authority (STA) is responsible for the planning and development of the majority of the regional transportation facilities in Sacramento County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstates 5 and 80 (I-5 and I-80), U.S. Highway 50 (US 50) and State Route 99 (SR 99). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintains roadway segments of the local transportation facilities.

I-5 and SR 99 are the primary north-south freeway facilities in Sacramento County that provide regional access to Yolo, Lake, Colusa and Sutter Counties to the north; and the Cities of Stockton, Modesto and Fresno to the south. I-80 provides primary east-west access from Sacramento County to Nevada City and Lake Tahoe to the east, and the San Francisco Bay Area to the west. Other major regional routes and their respective jurisdictions are:

- State Route 160 (SR 160, 12th Street, 15th Street, 16th Street, and Freeport Boulevard) – Caltrans, Sacramento County and City of Sacramento
- State Route 84 (SR 84, Jefferson Boulevard) – Caltrans, Sacramento County and City of West Sacramento
- Stockton Boulevard – City of Sacramento
- Folsom Boulevard – City of Sacramento

The Sacramento Regional Transit District (RT) is the major regional transit provider in Sacramento County. RT operates 77 bus routes and 20.6 miles of light rail covering a 418 square-mile service area.

Fresno County

The Council of Fresno County Governments is responsible for the planning and development of the majority of the regional transportation facilities in Fresno County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstate 5 (I-5), State Route 99 (SR 99), and State Route 41 (SR 41). Maintenance of local roadway segments is generally done by local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas).

SR 99 and SR 41 are the primary freeway facilities in the metropolitan Fresno areas. SR 99 and I-5 provide north-south access to Madera and Merced Counties to the north, and Tulare, Kings and Kern Counties to the south. SR 41 also provides north-south access to Madera County and the Sierra Nevada mountains to the north, and Kings County to the south. Other major regional routes and their respective jurisdictions are:

- State Route 168 (SR 168) – Fresno County and Clovis
- State Route 180 (SR 180) – Fresno County and Cities of Mendota, Kerman, Fresno, and Sanger
- State Route 198 (SR 198) – Fresno County and Cities of Coalinga and Huron
- Shaw Boulevard – City of Fresno
- Ashlan Boulevard – City of Fresno

Major regional transit providers that operate facilities within Fresno County include the Fresno County Rural Transit Agency (FCRTA) and Fresno Area Express (FAX). Both of these agencies operate fixed bus route service throughout Fresno County.

Los Angeles County

The Los Angeles County Metropolitan Transportation Authority (MTA) is responsible for the planning and development of the majority of the regional transportation facilities in Los Angeles

County. The MTA also administers the Los Angeles County CMP and its monitoring program. Caltrans is responsible for the maintenance of state highway facilities in the County such as U.S. Highway 101 (US 101), Interstate 5 (I-5), and Interstate 10 (I-10). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the regional and local transportation facilities.

Among its 89 incorporated cities, as well as its unincorporated areas, Los Angeles County has several key regional and local transportation networks. Some of the key regional transportation facilities, and the jurisdictions they cross, are listed below:

- U.S. Highway 101 (US 101) – City of Los Angeles
- Interstate 5 (I-5) – Unincorporated County of Los Angeles; and Cities of Santa Clarita, San Fernando, Burbank, Commerce, Pico Rivera, Downey, Norwalk, and La Mirada
- Interstate 405 (I-405) – Cities of Los Angeles, Culver City, Inglewood, Hawthorne, Lawndale, Torrance, Carson, Long Beach, Lakewood, and Long Beach
- Interstate 10 (I-10) – Cities of Santa Monica, Los Angeles, Alhambra, Monterey Park, Rosemead, El Monte, West Covina, Covina, and Pomona
- Interstate 210 (I-210) – Unincorporated County of Los Angeles; and Cities of La Canada Flintridge, Pasadena, Arcadia, Monrovia, Duarte, Azusa, Glendora, and San Dimas
- Interstate/State Route 110 (I-110/SR 110) – Cities of Los Angeles and Carson
- Interstate 710 (I-710) – Cities of Long Beach, Carson, Compton, Paramount, South Gate, Cudahy, Bell Gardens, Bell, Maywood, Vernon, Commerce, and Monterey Park
- Interstate 605 (I-605) – Unincorporated County of Los Angeles; and Cities of Los Alamitos, Lakewood, Hawaiian Gardens, Cerritos, Artesia, Bellflower, Norwalk, Downey, Santa Fe Springs, Pico Rivera, Whittier, El Monte, Industry, and Duarte
- Interstate 105 (I-105) – Cities of Los Angeles, El Segundo, Hawthorne, Inglewood, South Gate, Compton, Lynwood, Paramount, Downey, and Bellflower

Major regional transit providers that operate facilities within Los Angeles County include: the MTA (regional bus and light rail service), Southern California Regional Rail Authority (SCRRA) (Metrolink commuter rail service), and Amtrak (regional and interstate passenger rail service). Also, many of the local jurisdictions within the county operate local and intercity bus service (e.g., Foothill Transit Agency, Long Beach Transit, Santa Monica Municipal Bus Lines, Whittier Transit, etc.).

Orange County

The Orange County Transportation Authority (OCTA) is responsible for the planning and development of the majority of the regional transportation facilities in Orange County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstates 5 and 405 (I-5 and I-405), and State Routes 1 and 73 (Pacific Coast Highway – PCH, and SR 73 – San Joaquin Hills Toll Road). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the local transportation facilities.

I-5, I-405 and PCH are the primary north-south transportation facilities in Orange County that provide regional access to Los Angeles and Ventura Counties to the north; and San Diego County

to the south. SR-91, SR-22, and SR-55 provide primary east-west access from Orange County to Riverside and San Bernardino Counties to the east.

In addition to the regional State highways and freeways, OCTA has developed a “Smart Street” network for four major arterials in the County. The Smart Street concept seeks to improve roadway traffic capacity and smooth traffic flow through measures such as traffic signal synchronization, bus turnouts, intersection improvements and addition of travel lanes by removing on-street parking and consolidating driveways. The Smart Street concept is cost-effective since many of these improvements can be made within existing highway rights-of-way. Orange County's four Smart Streets are:

- Beach Boulevard (SR 39)
- Katella Avenue
- Moulton Parkway (also known as Edinger Avenue, Irvine Center Drive and Street of the Golden Lantern)
- Imperial Highway (SR 90)

Major regional transit providers that operate facilities within Orange County include: OCTA (regional bus service), SCRRA (Metrolink commuter rail service), and Amtrak (regional and interstate passenger rail service).

Riverside County

The Riverside County Transportation Commission (RCTC) is responsible for the planning and development of the majority of the regional transportation facilities in Riverside County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstates 15 and 215 (I-15 and I-215); and State Routes 91, 60, 74, and 215 (SR 91, 60, 74, and 215). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the local transportation facilities.

I-15, SR 91 and SR 215 are the primary north-south freeway facilities in Riverside County that provide regional access to San Bernardino County to the north; and Orange and San Diego Counties to the south. SR-60 provides primary east-west access to Los Angeles County to the west, and San Bernardino County to the east. SR 74 also provides major commute access to Orange County via Ortega Highway.

The Riverside Transit Agency (RTA) is the major regional transit provider in western Riverside County.

San Bernardino County

The San Bernardino Association of Governments (SANBAG) is responsible for the planning and development of the majority of the regional transportation facilities in San Bernardino County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstates 10, 15 and 40 (I-10, I-15 and I-40); and State Routes 18, 30, 38, 58, and 247 (SR 18,

30, 38, 58, and 247). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the local transportation facilities.

I-15 and SR 215 are the primary north-south freeway facilities in San Bernardino County that provide regional access to the City of Barstow and Las Vegas to the north; and Riverside, Orange and San Diego Counties to the south. I-10 provides primary east-west access to Los Angeles County to the west, and the City of Palm Springs to the east. I-40 provides primary east-west access to the Nevada and Arizona state borders.

Due to large geographical service area, and limited roadway facilities connecting them, there are several local transit providers in San Bernardino County. The mainly bus service providers include: Barstow Area Transit, Mountain Area Regional Transit Authority, Omnitrans, and the Victor Valley Transit Authority. Amtrak also provides regional passenger rail service to and from San Bernardino County.

San Diego County

The San Diego Association of Governments (SANDAG) is responsible for the planning and development of the majority of the regional transportation facilities in San Diego County, as well as the CMP. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstates 5, 8, 15 and 805 (I-5, I-8, I-15 and I-805); and State Routes 52, 54, 56, 76, 78, 125 and 905 (SR 52, 54, 56, 76, 78, 125 and 905). All State highways and the following arterials (non-State highways) are included in the County's CMP network:

- Manchester Avenue/El Camino Real (I-5 to SR 76-Mission Avenue)
- Palomar Airport Road/San Marcos Boulevard (I-5 to SR 78)
- Olivenhain Road/Rancho Santa Fe Road (El Camino Real to SR 78)
- Centre City Parkway (I-15 north to I-15 south)
- Scripps Poway Parkway (I-15 to SR 67)
- La Jolla Village Drive/Miramar Road (I-5 to I-15)
- Sea World Drive/Friars Road/Mission Gorge Road/Woodside Avenue (I-5 to SR 67)
- Fletcher Parkway/Broadway/E. Main Street/Greenfield Drive (I-8 west to I-8 east)
- Nimitz Boulevard/North Harbor Drive/Grape & Hawthorne Streets/Pacific Highway/Harbor Drive (I-8 to I-5)
- SR 54 & Sweetwater Road-Interim SR 125 (I-805 to Broadway)
- Otay Mesa Road-Interim SR 905 (SR 905 west to SR 905 east)

Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the local transportation facilities.

According to the current CMP (1998), the following CMP freeway segments are experiencing LOS F conditions in either or both the peak commute hours:

- Interstate 5 - Tamarack Avenue to Cannon Road
Manchester Avenue to I-805

- Interstate 8 - Balboa Avenue to SR-54
Nimitz Boulevard to Mission Bay Drive
Hotel Circle Drive North to College Avenue
- Interstate/SR 15 - Via Rancho Parkway to Carmel Mountain Road
Adams Avenue to Wightman Valley
- State Route 52 - Regents Road to I-805
Convoy Street to Santo Road
- State Route 54 - Willow Glen Drive to SR 94/Campo Road
- State Route 67 - Highland Valley Road to Maplevue Valley
- State Route 75 - I-5 to Glorietta Boulevard
Pomona Avenue to Orange Avenue/SR 75
- State Route 76 - El Camino Real to North Santa Fe Avenue
- State Route 78 - El Camino Real to Thunder Drive
Fig Valley to Ash Valley
- State Route 94 - SR 94 off-ramp to Spring Street/SR 125
Jamacha Boulevard to Jamacha Road/SR 54
- State Route 163 - I-15 to SR 52
Genessee Avenue to Friars Road
University Avenue to I-5
- State Route 209 - Lowell Boulevard to North Harbor Drive
- State Route 274 - Clairemont Drive to Convoy Valley
- Interstate 805 - Miramar Road to SR-52
Kearny Villa Road to Friars Road
Camino Del Rio South to Adams Avenue
Market Street to Ocean View Boulevard

In San Diego County, buses, trains and trolleys criss-cross the region, making travel accessible and economical for commuters. Transit services in the metropolitan San Diego area are provided by Chula Vista Transit, National City Transit, San Diego County Transit, San Diego Transit, and San Diego Trolley. Overall coordination of these services is the responsibility of the Metropolitan Transit Development Board (MTDB). Together, these organizations make up the Metropolitan Transit System (MTS). The North San Diego County Transit District (NCTD) operates the Coaster commuter train and North County bus routes.

Imperial County

The Imperial County Public Works Department and the Imperial County Local Transportation Authority are jointly responsible for the planning and development of the majority of the regional transportation facilities in Imperial County. Caltrans is responsible for the maintenance of state highway facilities in the County such as Interstate 8; and State Routes 78, 111, and 115 (I-8; and SR 78, 111, and 115). Local jurisdictions (i.e., incorporated cities), or the County (in unincorporated areas), generally maintain roadway segments of the local transportation facilities.

SR 111 and SR 115 are the primary north-south freeway facilities in Imperial County that provide regional access to San Bernardino and Riverside Counties to the north, via I-10. I-8 provides primary east-west access to San Diego County to the west, and the State of Arizona to the east.

Imperial County Transit System provides transit service to this mainly agrarian county. It connects with Greyhound for interregional trips.

4.12.2 REGULATIONS, APPROVALS, AND PERMITS APPLICABLE TO TRANSPORTATION

The California Department of Transportation requires an encroachment permit to perform construction activities in the state highway rights-of-way. Some of the affected local agencies may require local encroachment permits or conditional-use permits for proposed activities within public road rights-of-way. Encroachment permit requirements vary among agencies. As conditions of encroachment permits, measures are required to be implemented for transportation and traffic control.

4.12.3 IMPACTS AND MITIGATION MEASURES

Assessment of impacts related to installation of telecommunications infrastructure involved evaluating the effects of subsequent activities on traffic and circulation resulting from increases in traffic, loss of travel lanes and/or parking areas, disruptions to public transit, and potential safety effects associated with construction. Construction characteristics, including proposed manpower and equipment, location of construction and rate of construction were determined on the basis of information provided by Sempra Communications. Conservative assumptions were used to determine the potential number of vehicles that could be required for facilities installation.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally result in an impact to transportation and traffic if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

- Result in inadequate emergency access.
- Result in inadequate parking capacity.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Construction Vehicle Trip Generation

As discussed in Chapter 3, Semptra Communications proposes development of telecommunications infrastructure by underground installation of fiber optic cable facilities or aerial installation with existing electric distribution or transmission lines, and the potential construction of ancillary facilities such as regenerator / OP-AMP stations. Underground installation of fiber optic cable facilities would be accomplished using open trenching, plow and trench installation, or directional boring techniques, and would cause surface disturbance for a short period during installation, as described in Chapter 3, Project Description. Aerial installation would be accomplished by attaching suspension clamps on poles and stringing the cable with the use of bucket trucks and cable reel trucks or cable trailers, or OPGW stringing techniques on transmission towers.

Traffic-generating construction activities related to facilities installation would consist of the daily arrival and departure of construction workers to each work site; trucks hauling equipment and materials to the work site; and the hauling of excavated spoils from, and import of new fill to, each work site. The following identifies examples of the number of construction workers expected with potential types of construction spreads (i.e., each construction site along the alignment):

Street Trench	10-person crew
Cable Pulling	8-person crew
Directional Drilling	8-person crew

Based on these estimated crew sizes, and assuming some overlap in construction activities at each work site, construction worker trips traveling to and from each work site are not anticipated to exceed 20 round trips (40 one-way trips) per day.

As discussed in Chapter 3, the trench size for open-cut installation within paved roadways would be approximately 1.5 feet wide by two to four feet deep. It is expected that open trench construction within paved roadways would occur at the following average rates per workday, depending on location and conditions: metropolitan streets - 85 linear feet per day; and industrial streets and residential streets- 200 linear feet per day. Using the above trench size and construction rate estimates, and assuming fifty percent backfilling of soil, at each construction spread, it is estimated that up to 30 cubic yards (CY) of trench spoils would be hauled off-site daily, and a similar volume of new fill would be imported daily. Using an average haul load of 10 CY per truck, and assuming no backhauling, this would amount to up to 6 truck haul round trips (12 one-way trips) generated per work day. Accounting for the delivery of conduit, cable

and other construction components (which would be shipped on demand to the construction site throughout the construction period), the total number of off-site construction truck trips would be approximately 12 round trips (24 one-way trips) per work day.

The rate of construction for dirt trenching would be faster than for paved roadways. Additionally, since the potential for re-use of the native soil would be greater for dirt trenching than for trenching in streets, off-site hauling of soil in these locations would be less than that expected for paved roadways. Off-site vehicle trips generated at locations where special construction techniques are proposed (i.e., directional drilling) for crossing major roads, creeks, or other conditions where surface disturbance may need to be minimized, would also be less than that generated by trenching within paved roadways.

Impact TRA-1: Installation of fiber optic cable facilities within or across streets would reduce the number of, or the available width of, travel lanes on roads, resulting in temporary disruption of traffic flows and increases in traffic congestion. (Less than Significant)

Subsequent activities could be located within and/or across, a number of roadways. These actions could temporarily disrupt existing transportation and circulation patterns in the vicinity. Impacts would include direct disruption of traffic flows and street operations. Lane blockages or street closures during construction would result in a reduction in travel lanes and curb parking. Construction operations related to facilities installation within and/or across high traffic volume arterials could significantly impact traffic flow and operations at these locations.

The temporary construction easement width that would be required for installation of fiber optic cable facilities in public roadways would be approximately 12 feet. As specified under Construction Vehicle Trip Generation, above, open trench construction within paved roadways would be expected to proceed at a rate of about 85 linear feet per day for metropolitan streets, and 200 linear feet per day for residential and industrial streets. Consequently, impacts would be relatively brief at any one location along the cable alignment, in most cases less than one work week.

As necessary, special construction techniques (e.g., directional boring) are proposed as needed to install facilities beneath freeways, major arterials or intersections, and at-grade railroad crossings. Sempra Communications would obtain the necessary local and state road encroachment permits, railroad encroachment permits, and flight plan approvals (for potential helicopter use during construction), prior to construction and would comply with the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Also, it should be noted that roadway encroachment permits would be required with the use of helicopters for aerial installations over freeways and roadways since this would have the potential to stop traffic flow for safety reasons. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in all areas potentially affected by project construction.
- Install traffic control devices as specified in the Caltrans Manual of Traffic Controls for Construction and Maintenance Work Zones.
- Develop, and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary

Because Sempra Communications would obtain and comply with local and state road encroachment permits, and railroad encroachment permits, this would be a less than significant impact.

Mitigation Measure: No mitigation is required.

Impact TRA-2: Construction related to fiber optic cable facility installation could result in short-term increases in vehicle trips by vehicular construction activities and construction workers. (Less than Significant)

Construction-generated traffic would be temporary and therefore would not result in any long-term degradation in operating conditions or level of service on any project area roadways. The

primary off-site impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles.

As discussed under Construction Vehicle Trip Generation, above, installation of fiber optic cable facilities could generate up to 20 off-site construction worker vehicle round-trips (40 one-way trips) and 12 off-site truck round trips (240 one-way trips) per day per construction spread. These project-generated trips would not be substantial relative to background traffic conditions on all arterials and freeways, and would fall within the daily fluctuations of traffic for these roadways. Therefore, this short-term increase in vehicle trips would not significantly affect level of service and traffic flow on roadways. The traffic generated by construction activities would be mostly felt on the minor roadways serving the construction sites.

Level of service standards for roadways that are part of county CMP networks are intended to regulate long-term traffic increases from operation of new development, and do not apply to temporary construction projects. As such, the proposed project would not exceed level-of-service standards established by the applicable CMA for designated CMP roadways.

It is possible that multiple construction spreads could occur for implementation of subsequent activities. However, multiple trenching construction spreads, if they were to occur, are expected to be an average of five miles apart, and cable pulling spreads would be at an average of 40 miles apart. Thus, trucks and other vehicles would typically gain access to construction sites from different sets of roadways and intersections. Since subsequent activities would likely be distributed throughout the metropolitan areas in the identified counties, potential combined traffic effects of the individual construction operations resulting from this project would be less than significant.

Proposed hours of construction are Monday through Saturday, 7:00 a.m. to 7:00 p.m. unless otherwise authorized by the governing authority. Most project-related hauling and deliveries would be dispersed throughout the day, thus lessening the effect on peak-hour traffic. Construction-related truck traffic occurring weekdays during the hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. would coincide with peak-period traffic, and therefore, would have the greatest potential to impede traffic flow. Construction-related truck traffic operating outside of these specified hours would only occur if previously authorized by the governing authority.

As specified above, Sempra Communications will obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Specific requirements that may be included in the traffic control plan are identified above in Impact TRA-1. For these reasons potential impacts associated with temporary increases in construction traffic would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required.

Impact TRA-3. OPGW installations could utilize helicopters during construction which may temporarily result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. (Less than Significant)

As discussed in Chapter 3, Project Description, the helicopters may be utilized for OPGW installations which may temporarily result in a change in local air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The use of helicopters for OPGW installations over roadways would pose a significant safety hazard to motorists below. Therefore, it is likely that temporary freeway and roadway closures would be necessary.

As specified under above, Sempra Communications would obtain all necessary local and state road encroachment permits and flight plan approvals prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified above under **Impact TRA-1**. For these reasons potential impacts associated with temporary disruptions and/or closures on roadways would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required.

Impact TRA-4: Installation of fiber optic facilities within roadways and railroad rights of way could temporarily increase the potential for accidents. (Less than Significant)

Heavy equipment operating adjacent to or within a railroad or road right-of-way could increase the risk of accidents. Construction-generated trucks on project area roadways would interact with other vehicles. Potential conflicts also could occur between construction traffic and bicyclists and pedestrians, particularly in the urban areas and residential neighborhoods.

As specified above, Sempra Communications would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. The railroads require specific safety training of construction crews before they are permitted to work within the railroad rights-of-way. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to

reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified above under **Impact TRA-1**. For these reasons potential for accidents would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required.

Impact TRA-5: Installation of fiber optic facilities within or across streets could affect emergency access. (Less than Significant)

As discussed in **Impact TRA-2**, the proposed project could have temporary effects on traffic flow, particularly with subsequent activities as proposed within road right of ways. Fiber optic cable facilities within or across streets and temporary reduction in travel lanes could result in delays for emergency vehicle access in the vicinity of the work sites.

As specified under above, Sempra Communications would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could require the construction contractor to establish methods for maintaining traffic flow in the project vicinity and minimizing disruption to emergency vehicle access to land uses along the alignment. Specific requirements that may be included in the traffic control plan are identified above under **Impact TRA-1**. For these reasons, potential impacts associated with temporary effects on emergency access would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required.

Impact TRA-6: Construction related to installation of fiber optic facilities could generate a temporary demand for parking spaces for construction worker vehicles; in addition, construction operations could temporarily displace existing on-street parking on a number of streets. (Less than Significant)

Subsequent activities may create limited new, temporary parking demand for construction workers and construction vehicles as crews move through the project vicinity. As discussed in **Impact TRA-1**, proposed construction methods would not generate a substantial number of construction workers at any one location during installation activities; therefore, the amount of parking required would not be significant. Construction operations could also temporarily displace existing on-street parking on a number of streets. However, given the proposed rate of construction during facilities installation, impacts to on-street impacts would be relatively brief at any one location throughout the project area.

As specified above, Sempra Communications would obtain all necessary local and state road encroachment permits, and railroad encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could require the construction contractor to establish methods for minimizing construction effects on parking. Specific requirements that may be included in the traffic control plan are identified above under **Impact TRA-1**. For these reasons, potential impacts associated with potential temporary displacement of on-street parking would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required

Impact TRA-7: Installation of fiber optic facilities could temporarily disrupt bus service throughout the project area. (Less than Significant)

The proposed project will have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, installation of fiber optic facilities could disrupt access to bus stops and park and ride lots along the alignments, and slow bus movements. Bus routes on streets may need to be temporarily detoured, and bus stops temporarily relocated.

As specified under above, Sempra Communications would obtain all necessary local and state road encroachment permits prior to construction and would comply with all the applicable conditions of approval. Therefore, potential impacts associated with temporary disruptions to transit service would be mitigated to a less than significant level.

Mitigation Measure: No mitigation is required.

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